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PUBLIC PRIVATE PARTNERSHIPS IN INDIAN AIRPORTS: TRENDS AND OPPORTUNITIES

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Abstract

India is lack of adequate infrastructure required for high level development. The opportunities for the growth of joint venture between private and public sectors are huge and desirable. An efficient civil aviation sector is important for India as it is inter-linked with other sectors in the economy and generates income and employment through global commerce and tourism. The quality of airport infrastructure, which is a vital component of the transportation network, contributes directly to a country's international competitiveness and the flow of foreign investment. Traditionally, airports were owned, managed and operated by governments but there has been a worldwide trend towards increasing private sector involvement to varying degrees, including through the use of Public-Private Partnerships (PPPs). The aviation industry in India is an expeditiously growing industry in the current scenario. The present study is an attempt whether PPP model of investment in infrastructure in aviation sector is really feasible or not with respect to passenger and cargo movement. The study concluded that PPPs model adopted in Indian aviation sector is successful both in term of passenger traffic and cargo movement.

Key words: Public Private Partnership, PPP, DIAL, MIAL

1. Introduction

Transportation is a key driver for economic and social development, which connects people to jobs, education, health services, and enables the supply of goods and services around the world. Air transport is one of the world's most important industries. Airports being nuclei of economic activity assume a significant role in the national economy. Airports also represent a country's window on the world. The quality of airport infrastructure, which is a vital component of the overall

transportation network, contributes directly to a country's international competitiveness and the flow of foreign investment.

Air transport facilitates integration into the global economy and provides vital connectivity on a national, regional and international scale. By facilitating tourism, air transport also helps generate economic growth and alleviate poverty–providing employment opportunities, increasing revenues from taxes and fostering the conservation of protected areas.

Traditionally, airports were owned, managed, controlled and operated by governments but there has been a worldwide trend towards increasing private sector involvement to varying degrees, including through the use of public-private partnerships (PPPs). Modernizing airports is essential for the fast development of our country. Major policy changes are taking place because of a shift in the mindset of the government from considering air travel as elitist to making it available for the common man.

2. Meaning of Public–Private Partnership (PPP)

Public–Private Partnership (PPP) refers to a long-term contractual partnership between the public and private sector agencies, specifically targeted towards financing, designing, implementing and operating infrastructure facilities and services in the State. It is "an arrangement between a government/statutory entity/government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made by the private sector entity for a specified period of time. These schemes are sometimes referred to as PPP or P3. Thus, these PPPs aim to achieve the twin objectives of high growth and equity on a sustainable basis.

PPPs existed for a long time but its significance became more popular in the 1980's across the globe. In the 1990s, during India's first liberalization wave, there were various attempts to promote PPPs. However, some infrastructure projects in some sectors implemented during 1990s under PPPs were failed. India was perceived as too risky and there was significant opposition to private sector investment. It is only in the first half of the 2000s that the first PPPs were signed and implemented.

3. Aviation Infrastructure in India-Existing Position

The civil aviation industry in India has emerged as one of the fastest growing industries in the country during since 2006. India is the third largest domestic civil aviation market in the world behind the USA and China. India is expected to overtake China and the United States as the world's third-largest air passenger market in the next ten years, by 2030, according to the International Air Transport Association (IATA).

There are 464 airports/airstrips in the country. Among these, the AAI owns and manages 125 airports. Itincluding 11 International Airports, 26 civil enclaves at defense airfields 10 is AAI Customs airports including 4 Customs Civil Enclaves; and 76 are AAI Domestic (Operational) airports, including 21 Domestic (Operational) Civil Enclaves. Around 100 airports/aerodromes handle regular commercial passenger flights. The cities of New Delhi, Mumbai, Bengalure, Kochi, and Hyderabad are served by privately (or joint-venture) operated airports.

4. Statement of the Problem

No government in the world can alone meet the infrastructural requirements of its country. The Public Private Partnerships (PPPs) have emerged as a very feasible, viable, and growing mode of creating infrastructure for a country. The apparent question that arises in this research work is whether PPP model of investment in infrastructure in aviation sector is really feasible or not with respect to passenger and cargo movement. Overall, this research work is intended to answer the following research question: What are the recent trends and opportunities of PPPs activities in Indian Aviation Sector? Initiation of a new study on PPPs model of investment in infrastructure will naturally throw up additional information which will be useful to the policy makers in meeting the challenges ahead. The present study is undertaken with this end in view. The findings of the study contribute to the existing literature on Indian airports.

5. Objectives of the Study

The main objectives of the present study are the following:

1. To study the significance of public-private partnerships in Aviation Sector.

2) To study the progress of PPPs in Indian Aviation Sector.

3) To assess the passenger and cargo movement in Mumbai and Delhi International Airports

6. Literature Survey

Anil Kumar and Manoj Dash (2017) in their study entitled "Performance Efficiency Measurement of Indian Airports: A Comparative Analysis of Airports Authority of India and Public Private Partnership" opined that liberalization step in the Indian aviation market has minimized the institutional barriers which have hindered the freedom and flexibility of air transport operations among private investors. The study concluded that competition within the aviation sector has become fierce, the Airports Authority of India (AAI) and Public Private Partnership (PPP) in Indian airports are not only providing varied services, but also attracting consumers with new infrastructure and full modern facilities.

Rajiv Gupta (2015) in his study titled "Issues in Airport Infrastructure Development under Public Private Partnership' examined the phenomenon of airport infrastructure development under public private partnership mode. The study identified the issues in privatization of airports in Asia, as well as across the United States of America, the European Union, and Australia.

Kunjukunju Benson (2021) in his study "Public Private Partnerships (PPPS) In India: Cochin International Airport - Trends and Opportunities" assessed Indian experience with private participation in infrastructure in aviation sector from a broader economic perspective. The study depicted that PPP has many advantages such as large investment in public infrastructure, efficient service delivery, cost-effectiveness, sharing of risks, effective use of assets and opportunities of long-term investment. The study concluded that all important PPP running airports are telling success stories which are viable both in terms of profitability and aircraft passenger traffic.

7. Research Methodology

This research article is conceptual research with an explorative methodology. The study is based on undertaking desk research in exploring PPPs in the aviation sector. The study covers a period of 15 years. The secondary data and information's were collected from various sources viz. documents of GOI and

other publicly available material, non-disclosed project documents, newspapers and research papers. Author has used several search engines and databases including Google Scholar. For analyzing the data statistical tools like Compound Annual Growth Rate (CAGR) and Annual Average Growth Rate (AAGR) was used.

8. Important PPP Airports in India:

Leading PPP model airports in India are Delhi, Mumbai, Hyderabad, Bengaluru and Kochi. Table 1 discloses the cost, pattern of equity holding and status of the five major PPP Airports in India.

Table 1
Five Major PPP Airport Projects in India

No.	Name of Airport Time Period	Year of Commencement of the Project	Initial Cost (₹ in crore)	Pattern of Equity Holding
1	Indira Gandhi International Airport - (Brownfield)- NCR	2006	8,600	Pvt. 70.1% Govt. 29.9%
2	Chhatrapati Shivaji International Airport-Mumbai-(Brownfield)	2006	5,800	Pvt. 74% Govt. 26%
	Kempegowda International Airport – Bangalore-Greenfield	2008	12,690	Pvt: 74%, Govt. 26%
4	Rajiv Gandhi International Airport - Hyderabad (Greenfield)	2003	24,780	Pvt. 74% Govt. 26%
5	Cochin International Airport Limited)- Kochi-Greenfield	1999	230	Pvt: 57.9% Govt. of Kerala & Public Sector Units 42.1%

Source: Compiled by Researcher

i) Indira Gandhi International Airport Limited, New Delhi:

Indira Gandhi International Airport is managed by the Delhi International Airport Limited (DIAL) since 2006 under PPP model with an initial investment outlay of ₹ 8,600 crore. DIAL is a joint venture, formed as a consortium between three major players: GMR Group (50.1%), Fraport AG (10%) and Malaysia Airports (10%), India Development Fund (3.9%) and the Airports Authority of India retain a 26% stake.

It is the busiest airport in India in terms of daily flight traffic handling close to 70 million passengers a year. It is the second busiest airport in the world by seating capacity, having a seating capacity of 3,611,181 seats, and the busiest airport in Asia by passenger traffic handling nearly 37.14 million passengers in 2021. It is also the busiest airport in the country in terms of cargo traffic. With the commencement of operations at the new Terminal 3, Delhi's Indira Gandhi International Airport has become India's and South Asia's largest and most important aviation hub.

ii) Chhatrapati Shivaji International Airport-Mumbai

With the privatization of the Mumbai Chhatrapati Shivaji International Airport, India experienced a momentous change in its civil aviation history. In 2006, Mumbai International Airport Pvt. Ltd. (MIAL), is a joint venture between the GVK led consortium- (GVK 37%, Bidvest 27% and ACSA 10% and Airports Authority of India - AAI (26%).

This airport is second busiest one in terms of traffic of passengers, busiest in terms of international passenger traffic, and second busiest with respect to overall passenger traffic. Mumbai's Chhatrapati Shivaji Maharaj International Airport (CSMIA) has been named the 'Best Airport by Size and Region' in the above 40 million passenger category by the Airport Council International (ACI) in the year 2019.

iii) Kempegowda International Airport - Bangalore

Bangalore International Airport Limited (BIAL) is designed as built, owns and operates (DBOO). A foreign consortium holds a 74% stake in BIAL which consists of the following private promotors: GVK Group India (43%), Siemens Project Ventures GmbH (26%) and Flughafen Zurich AG Ltd. (5%). The remaining 26% are owned by AAI as well as the Karnataka State Industrial Investment & Development Corporation Limited (KSIIDC) hold each 13% was constructed with an outlay of ₹12,690 crore.

Kempegowda Airport is the third-busiest airport by passenger traffic, air traffic movements and domestic and total cargo handled in India, behind the airports in Delhi and Mumbai, and is the 29th busiest airport in Asia. In the FY 2021-22, the airport handled around 16.2 million passengers and 411,550 tonnes of cargo.

iv)Rajiv Gandhi International Airport- Hyderabad

Rajiv Gandhi International Airport Limited is operated by the Hyderabad International Airport Limited (HIAL) which signed an agreement with the Government of India in December 2004 for a period of 30 years. Hyderabad International Airport Limited is a joint venture formed as a consortium between GMR Group (63%), Malaysia Airports Holdings Berhad (11%) with a total private equity of 74%. Government of India's AAI hold 13% and Government of Telangana hold 13% of total equity holding. The model of PPP for Hyderabad Airport is based on a Build-Own-Operate-Transfer (BOOT) with an outlay of ₹ 24,780 crore.

It is the largest airport of India by area. The fourth busiest airport in India by passenger's traffic, it handled 12.4 million passengers and 140,075 tonnes (154,406 short tons) of cargo between April 2021 and March 2022. Hyderabad International Airport Limited (GHIAL) is planning to develop India's first Airport City (Aerotropolis) spread across 1,500 acres in its vicinity.

v) Cochin International Airport Limited:

Cochin International Airport Ltd. (CIAL) is operated by, a unique entity founded in 1994. It is the first green field airport in the country, build from scratch, with private participation and is thus a pioneer of the Indian airport public-private partnership (PPP) model. It is the busiest and largest airport in the state of Kerala. The state-of-the-art international airport was built in 800 acres at just INR 230 Crores.

The government of Kerala holds 33.36% stake, making it the single largest investor in the project. Indian government companies like Air India, BPCL, AAI hold 8.74% stake (total Government holding 42.1% and private 57.9%), while foreign companies like Abu Dhabi based Emke Group, the Oman-based Galfar Group, UAE based MajeedBukatara Trading holds 5.42% stake. Scheduled commercial banks like Federal Bank, SBT and Canara Bank holds 5.91%. The remaining 38.03% stake is held by more than 10,000 personal investors from 31 countries, mostly non-resident Indians.

CIAL is the World's first airport fully powered by solar energy. The eco-friendly initiative of CIAL won international accolades including "The Champions of the Earth Award-2018" from the United Nations.

9. Analysis and Interpretations

a) Passenger Traffic Movement

Table 2 depicts the passenger traffic movement in Delhi and Mumbai PPP airports during the period 2016-17 to 2021-22. Table 2 exhibits the trends on passenger traffic quoted by AAI (Airport Authority of India) from the financial year 2016-17 to 2021-22.

Table 2
Passenger Traffic in Delhi and Mumbai PPP Airports (in million)

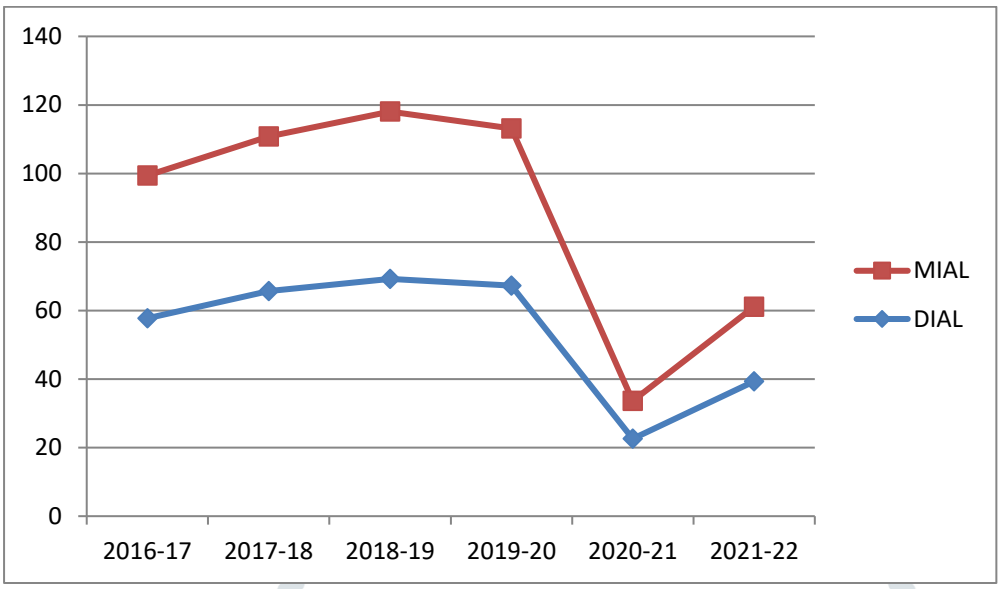
Year	DIAL	AAGR	MIAL	AAGR
2016-17	57.70	19%	41.67	5 %
2017-18	65.69	14%	45.15	8%
2018-19	69.23	5%	48.82	8%
2019-20	67.30	-3%	45.87	-6%
2020-21	22.58	-66%	11.05	-315%
2021-22	39.33	74%	21.75	96%
CAGR	**(-6.27%)**		**(-11.41%)**	

Source: Compiled by Researcher
Percentage in bracket indicates Compound Annual Growth Rate.
AAGR-Annual Average Growth Rate

The study revealed that Delhi and Mumbai airports recorded a rapid growth in passenger traffic during 2016 to 2019. The Passenger traffic handled by Delhi Airport increased from 57.70 to 67.30 million over a period of 3 years (2016-19) showing a compound annual growth rate of 6.26%. However it was decreased to 39.33 million in 2021-22. Due to pandemic situation Delhi Airport showed a negative compound annual growth rate of -6.27% over a period of 6 years (2016-2022). Whereas Mumbai Airport shows the negative growth rate of -11.41% in passenger traffic during the period 2016-2022. The decrease in passenger traffic in all airports during the year 2020-21 and 2021-22 was due to the adverse effect of the COVID-19 pandemic on the airlines operating in the country, which were already reeling under heavy losses.

The aviation sector in India suffered severe financial strain due to lockdowns and restrictions issued to curb Covid-19. The estimated losses incurred by airlines and airports in India in the financial year 2020-21 is about Rs19, 564 crore and Rs. 5,116 crore respectively. Due to Covid-19, domestic operations were suspended from March 2020 and were subsequently resumed in a calibrated manner only from May 2020 at 33 per cent of the capacity. The capacity restrictions were relaxed only in October 2021.

Figure 1
Passenger Traffic in Delhi and Mumbai PPP Airports



b) Cargo Movement

Table 3 depicts the cargo movement in Delhi and Mumbai PPP airports during the period 2016-17 to 2020-21.

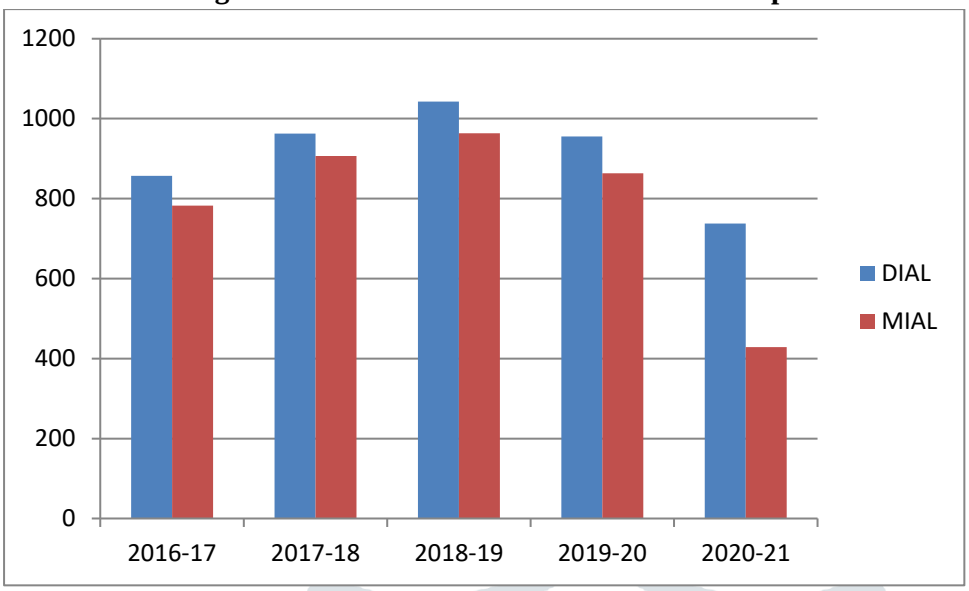
Table 3
Cargo Movement in Delhi and Mumbai PPP Airports (in 000 Metric Tonnes)

Year	DIAL	AAGR	MIAL	AAGR
2016-17	857.42	7%	782.90	12%
2017-18	963.03	12%	906.31	16%
2018-19	1042.95	8%	963.45	6%
2019-20	955.86	-8%	863.77	-10%
2020-21	737.43	-23%	428.38	-50%
CAGR	**-2.97%**		**-11.36%**	

Source: Compiled by Researcher
Percentage in bracket indicates Compound Annual Growth Rate.

Table 2 depicts the trends on movement of both domestic and international cargo quoted by AAI from the financial year 2016-17 to 2020-21. The study revealed that Delhi and Mumbai airports recorded a rapid growth in cargo movement during 2016 to 2019. The cargo movement handled by Delhi and Mumbai airport showed a negative compound annual growth rate of -2.97 and 11.36 respectively over a period of 5 years (2016-2021). The decrease in passenger traffic in all airports during the year 2020-21 and 2021-22 was due to the adverse effect of the COVID-19.

Figure 2
Cargo Movement in Delhi and Mumbai PPP Airports



10. CONCLUSION

The present paper attempted to analyze the trends and progress of PPPs applied in the Indian aviation sector. The study assessed Indian experience with private participation in infrastructure from a broader economic perspective using PPPs literature. Considering India's infrastructural needs, PPPs are not just an option, but a necessity. It has been seen that PPP has many advantages such as large investment in public infrastructure, efficient service delivery, cost-effectiveness, sharing of risks, effective use of assets and opportunities of long-term investment. Though a mixed economic approach is followed by India, Public Private Partnership in infrastructure create considerable value to the Indian government and its citizens with respect to enhancement in time efficiency, greater convenience, increased reliability and saving costs along with easy availability of information. The study concluded that all important PPP running airports are telling success stories which are viable both in terms of aircraft passenger traffic and cargo movement. Considering all this, we can conclude that mere PPP is not sufficient for India, but an effective PPP is required.

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